

## *Sotanus chrissiensis* Linnauvori from the Transvaal, transferred to a new genus, *Heidinus* (Homoptera: Cicadellidae)

by

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*Sotanus chrissiensis* Linnauvori is transferred to the new genus *Heidinus* and its problematic phylogenetic relationships are discussed.

### INTRODUCTION

In 1961 Linnauvori described a new species of leafhopper from Chrissiesmeer (Transvaal), which he named *Sotanus chrissiensis*. The genus *Sotanus* was originated by Ribaut (1942) for *S. thenii* (Löw), a monobasic species known only from the Alpine regions of Europe. When I recently examined the male holotype of *S. chrissiensis* I concluded that it is unquestionably not congeneric with *S. thenii*. They even belong to different tribes of the Deltoccephalinae. *S. thenii* (with brachypterous females) is a typical athysaniid, with characteristic Y-shaped connective (Fig. 14), articulating with the socle of the aedeagus. The styles (Fig. 11) and aedeagus (Figs 12, 13) also differ considerably from those of *S. chrissiensis*, of which the tribal relationships are uncertain and for which a new genus, *Heidinus*, is proposed here.

### Genus *Heidinus* gen. nov.

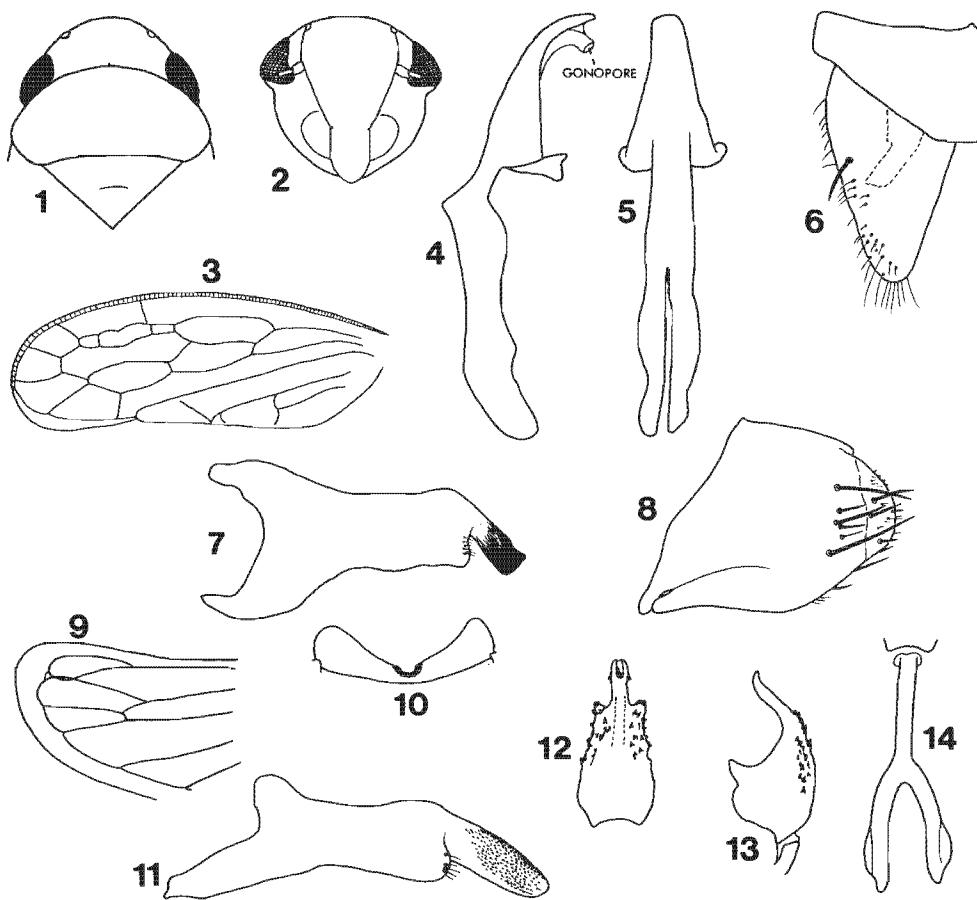
Type-species: *Sotanus chrissiensis* Linnauvori.

Small dark-coloured macropterous leafhoppers, with head considerably narrower than pronotum (Fig. 1). Eyes relatively small, with crown short and rounded (not flattened) and broadly rounded to face. Crown and frontoclypeus shagreened. Ocelli rather far removed from eyes; distance between ocellus and adjacent eye about 3 times diameter of ocellus. Coronal suture very short. Frontoclypeus broad, wedge-shaped (Fig. 2). Gena weakly notched below eye and width below lorum slightly less than width of ocellocular region. Transclypeal suture reduced.

Pronotum medially nearly twice length of crown, convex, shagreened, with disc weakly rugulose; lateral margins long, carinate. Tegmen with 3 closed anteapical cells and 4 apical cells (Fig. 3); 2 cross-veins present between sectors; appendix distinct. Hind wing with submarginal vein complete and reaching apex (Fig. 9). Spinulation of fore tibia 1+1, of apex of hind femur 2+2+1.

Pygofer short, broadly conical, weakly incised mid-dorsally by articular membrane of anal tube (Fig. 8). Pygofer lobe bearing number of macrosetae and

† Deceased



Figs 1-14: *Heidinus* and *Sotanus* sp. 1-10. *Heidinus chrisiensis* (Linnavuori). 1-8. Holotype ♂. 1. Head and thorax, dorsal view. 2. Face. 3. Tegmen. 4-5. Aedeagus, lateral and ventral views. 6. Plate. 7. Style. 8. Pygofer, lateral view. 9-10. Unidentified ♀ from Mkuzi. 9. Apex of hind wing. 10. Seventh abdominal sternite. 11-14. *Sotanus thenii* (Löw), ♂ from Alpwiese Motta Naluns, Switzerland. 11. Style. 12-13. Aedeagus, ventral and lateral views. 14. Connective.

microsetae; hind part membranous. Plate triangular, with hairs on both dorsal and ventral surfaces, but few macrosetae (Fig. 6). Style with short apophysis and distinct preapical lobe (Fig. 7). Valve large, triangular and articulating laterally with pygofer. Aedeagus symmetrical and completely fused with linear connective, of which basal arms are long and closely parallel but not tangential apically.

This genus is named for Dr Heidi Günthart of Dielsdorf, Switzerland.

The affinities of *Heidinus* are problematic. The preapical gonopore and fusion of the aedeagus with the long linear connective imply alliance with the Deltocephalini, especially the genus *Recilia* Edwards. However, in certain external characters it differs substantially from *Recilia*, e.g. the narrowness of the head, wide separation of the ocelli from the eyes and the 1+1 spinulation of the fore tibia (3+4 in *Recilia*). These leafhoppers also exhibit certain xestocephalid features, like their dark coloration, short narrow convex crown and the situation of the ocelli far from the eyes. It is interesting to note that the type specimens of this species were collected under a stone and according to Oman (1949) nymphal Xestocephalinae probably have a subterranean habitat. However the shape of the connective, the presence of an appendix in the tegmen and a complete submarginal vein in the hind wing exclude *Heidinus* from the Xestocephalinae.

#### *Heidinus chrissiensis* (Linnauvori), Figs 1-10

*Sotanus chrissiensis* Linnauvori, 1961: 477

MALE. Macropterous. Length from apex of crown to tips of tegmina 3.28 mm; transocular width 0.96 mm; greatest width of pronotum 1.08 mm. Colouration dark, coffee-brown, with few small ochraceous areas on crown. Horizontal arcs on fronto-clypeus light brown. Ocelli whitish. Tegmen dark brown, with lighter brown veins.

Pygofer lobe rounded behind and bearing about 7 macrosetae (Fig. 8). Plate and style as in figs 6, 7. Aedeagus with apex curving dorsally and very distinct gonopore preapically on dorsal side (Fig. 4).

FEMALE. Paratype female not seen.

MATERIAL EXAMINED. The holotype male (collector's data: Lake Chrissie (= Chrissiesmeer), Tvl., 13-14.iii.1954, G. Rudebeck, under stone), housed in the Museum of Zoology and Entomology, Lund University, Lund, Sweden, was studied. A number of macropterous females (specific status indeterminate) from Umtentweni (Natal), Mkuzi (Natal), Croydon (Swaziland), Pietermaritzburg (Natal), Letaba (Tvl.), Fouriesburg (O.F.S.), East London (C.P.) and Otjimbumba (Namibia) were examined and the seventh abdominal sternite of one from Mkuzi is illustrated (Fig. 10). Unfortunately additional males were not available.

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